



GROUNDWATER MONITORING REPORT

Number 4 – October 26, 2005

218-220 Clara Street
San Francisco, California
LOP Site Number 11622

Prepared For:


Mr. John Scariot
8850 El Doric Court
Gilroy, California, 95020

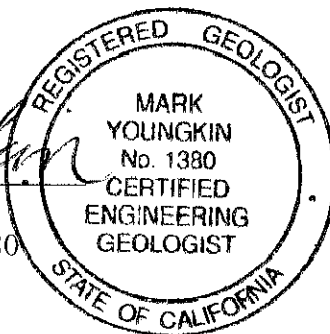
Prepared By:

Golden Gate Tank Removal, Inc.
255 Shipley Street
San Francisco, California 94107

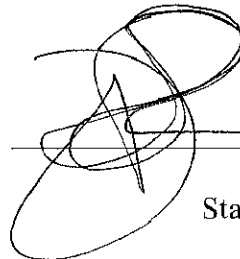
GGTR Project No. 8483
January 9, 2006

Reviewed By:


Mark Youngkin
Registered Geologist CEG 1380



Authorized By:



Greti Wolf
Staff Geologist

GROUNDWATER MONITORING REPORT

Number 4 – October 26, 2005

218-220 Clara Street, San Francisco, California

SFDPH LOP Site Number 11622

Introduction

This report presents the results and findings of the October 26, 2005 quarterly groundwater monitoring and sampling activities conducted by Golden Gate Tank Removal, Inc. (GGTR) at 218-220 Clara Street in San Francisco, California. This monitoring event was the fourth consecutive monitoring event for the one existing groundwater monitor well (MW1) since its installation and initial sampling conducted at the site in October 2004. The San Francisco Department of Public Health (SFDPH) has designated the site as Local Oversight Program (LOP) Case Number 11622. Figure 1 is a *Site Location Map* of the subject property. Figure 2 is a *Site Vicinity Plan* showing the location of the former underground fuel storage tank and existing groundwater monitor well.

Site Location and Description

The subject property is located at 218-220 Clara Street, on the northwest side of Clara Street between 5th and 6th Streets, in the South of Market District of San Francisco, California. The site lies approximately 500 feet (0.1 mile) northwest of Interstate 80, 0.75-mile northeast of State Highway 101, and 0.82 mile west of the San Francisco Bay (China Basin inlet). The elevation of the property is approximately 10 feet above Mean Sea Level (Figure 1). The property consists of a rectangular site occupying 4,996 square feet (0.11 acre) in lot area and has been owned by Mattock Construction Company since February 1969 (San Francisco County Assessor Parcel B3753 L60). At this time, records are not available on previous site ownership or activities of past operation. The subject property is zoned for commercial use. Figure 1 presents a *Site Location Map*. Figure 2 is a *Site Vicinity Plan* of the property showing pertinent site features, property boundaries, and adjacent property locations.

A two-story structure occupies the majority of the property and is currently leased to at least one business enterprise (Escobar; 220 Clara Street). A roll-up door located at the east corner of the building provides vehicular access to the street level portion of the property. The exterior building is of stucco texture. An approximate 4-foot wide sidewalk exists along the Clara Street frontage of the subject site.

The property is relatively flat lying with the topographic relief generally directed towards the southeast (Figure 1), in the direction of the San Francisco Bay. One 480-gallon gasoline

UST was located beneath the concrete sidewalk at exterior eastern corner of the property along Clara Street. The UST was abandoned in place in May 2004 under the supervision of the SFDPH.

Site Geology and Hydrogeology

According to a Geologic Map of the San Francisco-San Jose Quadrangle (California Department of Conservation, 1990), the site is directly underlain by artificial fill and up to approximately 500 feet of Quaternary alluvial deposits (unconsolidated stream and basin deposits) and possibly marine sandstone, shale, conglomerates, greenstone, and serpentinized ultramafic rock (thickness not established) of the Mesozoic Franciscan Complex. Shallow subsurface soil reported at the site during UST abandonment activities was a moist, brown sand (and debris) to approximately 6 feet below grade overlying a dense silty clay (Bay Mud) up to approximately 9 feet below grade (fbg). The geologic map also indicates that the site is situated approximately 8 miles northeast and 10.5 miles southwest of the San Andreas and Hayward Fault Zones, respectively.

The site is in the *San Francisco Bay Central Groundwater Basin (Basin 3) - Downtown Sub Basin* according to the Water Quality Control Plan prepared by the California Regional Water Quality Control Board (CRWQCB, 1995/2000). Groundwater in this basin is designated beneficial for industrial and agricultural uses only, and is typically not considered a potential source of domestic drinking water.

The regional groundwater flow direction in the vicinity of the site is estimated to be toward the southeast, in the general direction of the China Basin inlet (Mission Creek Marina) and decreasing topographic relief. The depth to groundwater at the site appeared to stabilize in the UST cavity during UST abandonment and sampling activities at 9 fbg. *No site specific groundwater gradient data exist at this time; however, based upon gradient data obtained from monitor wells situated directly northwest of the site, between Folsom and Shipley Streets, groundwater flow at this vicinity location has consistently been directed toward the southeast.* The nearest surface water body is the Mission Creek Marina of the China Basin portion of the San Francisco Bay, located approximately 2,900 feet (0.55 mile) southeast of the subject property (Figure 1).

Site Subsurface Conditions

Shallow subsurface soil texture described by GGTR field personnel during monitor well installation activities at the site in September 2004, was predominantly a moist to wet, dark grey, clayey, silty, fine-grained sand to the total explored sample depth of 15 feet below grade (fbg). A concrete or rock layer, assumed to be the historical roadway underlying the existing street pavement, exists at approximately 5 fbg as evidenced by numerous borehole obstructions in the parking lanes along both sides of Clara Street. The static groundwater level measured during monitor well sampling from October 2004 to October 2005 ranged between 7.35 and 8.45 fbg. As discussed above, a site-specific groundwater flow direction and gradient was not established at this time.

Environmental Site History

UST Closure Activities – April 2004

In April 2004, GGTR was contracted to remove one 480-gallon underground gasoline storage tank (UST) from the subject property at the location shown in Figure 2. Based on the presence of a utility pole overlying the northeast end of the UST, the SFDPH, in a revised letter dated April 7, 2004, authorized that the tank be closed in place. On May 3, 2004, under the direct supervision of Ms. Elizabeth Leong of the SFDPH, Hazardous Materials Unified Program Agency, the UST was abandoned in place by filling the tank completely with concrete. Grab groundwater samples were collected from the UST excavation prior to (4/9/2004) and following (4/22/2004) purging of the groundwater that accumulated within the excavation. Analytical results are presented in Table 1, attached. Additional details are in GGTR's June 3, 2004 *Tank Closure Report*.

Drilling and Monitor Well Installation – September 2004

Based on review of the June 2004 Tank Closure Report, the SFDPH-LOP, in a letter dated June 16, 2004, requested that additional site investigation and/or remedial activities be conducted at the site to assess the extent of groundwater contamination in the vicinity of the former UST. On June 10, 2004, GGTR submitted their *Work Plan for Monitor Well Installation and Sampling*, which was subsequently approved by the SFDPH-LOP, in a letter dated June 18, 2004.

In September 2004, GGTR obtained a Well Construction Permit from the SFDPH, Monitoring Wells and Water Quality Section and obtained a Street Excavation Permit from the San Francisco Department of Public Works. On September 30, 2004, GGTR contracted GREGG Drilling & Testing, Inc. (GREGG) of Martinez, California (State Contractors C-57 License #485165) to perform the soil boring and well installation activities at the site. B1/MW1 was placed adjacent to the south corner of the former UST excavation. Mr. Albert Lee and Ms. Stephanie Cushing of the SFDPH-LOP witnessed all drilling activities.

Soil samples were continuously collected in B1 between 5 and 15 fbg by hydraulically pushing (direct push technology) a 2.5-inch-diameter, butyrate plastic tube-lined, remote core sampler (4-foot length) approximately 48 inches into relatively undisturbed soil. GGTR also collected four discrete soil samples from the drummed soil cuttings generated during drilling activities. On September 30, 2004, GGTR submitted the soil samples under formal chain-of-custody command to North State Laboratory (NSL; CA ELAP 31753) of South San Francisco, California for analysis. All discrete soil boring samples were analyzed by the following California Department of Health Services approved analytical methods.

- TPH-G (EPA Methods 8015M/8021B)
- BTEX & MTBE (EPA Method 8015M/8021B)

The soil sample collected in B1 at 9.5 fbg was additionally analyzed for Volatile Organic Compounds (VOCs) and Fuel Oxygenates by EPA Method 8260. The discrete soil samples collected from the drummed soil cuttings were composited and also analyzed for TPH-G, BTEX, and MTBE, as well as Total Threshold Limit Concentration (TTLC) Lead by EPA Method 6010B ICAP. Based on the elevated TTLC lead concentration exceeding 50 mg/kg, the stockpile composite sample was additionally analyzed for lead (EPA Method 6010B/ICAP) using: 1) Soluble Threshold Limit Concentration (STLC) by California Title 22 Waste Extraction Test, and 2) Toxicity Characteristic Leaching Procedure (TCLP) by EPA Method 1311/SW6010B. NSL performed all initial sample extraction and volatile analysis procedures by October 6, 2004, which is in conformance with the maximum 14 day hold time for the volatile analyses. Sample soil not utilized for analysis was transferred to a 55-gallon D.O.T.-approved steel drum. Analytical results are included in Table 1.

Following completion of soil sampling activities, GREGG extracted the center drill rods from within the hollow stem augers and advanced factory-sealed, 2-inch-diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) well casing to the total depth of the borehole. Monitor well casing construction consisted of 10 feet of screened PVC well casing (0.010 inch slot size) extending from 5 to 15 fbg and approximately 4.75 feet of blank PVC riser casing extending from 0.25 to 5 fbg. A locking compression cap and threaded bottom cap were placed at the top and bottom, respectively, of the well casing.

Monitor Well Development and Sampling – October 2004

On October 5, 2004, GGTR developed MW1 in general accordance with regulatory corrective action guidelines. Well development is performed to: 1) potentially restore the natural hydraulic conductivity of the surrounding formation to its original condition and 2) displace any residual annular fines and remove sediment from the well casing to ensure turbid-free, representative groundwater samples during well sampling activities. GGTR surged the formation groundwater in the well for approximately 20 minutes using a 2-inch-diameter surge block. Surging was performed in approximate 2- to 3-foot intervals throughout the entire screened section of the well, between the water table level and total

depth of well casing. Because of the high yielding formation observed in the well, import water was not required during the well surging activities.

GGTR subsequently purged ≥ 10 well casing volumes (@ 12.5 gallons) of groundwater from the well using a centrifugal, direct current purge pump and factory-sealed 0.5-inch-diameter, polyethylene purge tubing. Groundwater was directly transferred to a 55-gallon storage drum. Purging continued until the groundwater was approximately free of suspended fine sediments. On October 7, 2004, GGTR returned to the site and performed initial groundwater sampling activities at the subject property. The groundwater sample was analyzed for the following Department of Health Services approved methods.

- TPH-G (EPA Methods 8015M/8021B)
- BTEX (EPA Methods 8015M/8021B)
- MTBE (EPA Methods 8015M/8021B)
- VOCs (EPA Method 8260B)

The groundwater sample was additionally analyzed for Total Dissolved Solids (TDS; EPA Method 160.1) to assess groundwater quality beneath the site. Laboratory analytical and fluid-level monitoring results are presented in the attached Tables 2 and 3, respectively.

Based on review of GGTR's January 17, Report of Monitor Well Installation and Sampling Activities, the SFDPH-LOP, in their letter dated January 20, 2005, concurred with GGTR's recommendation for continued quarterly groundwater monitoring for at least one year.

Wellhead Elevation and Coordinate Survey – December 2004

On December 20, 2004, Virgil Chavez Land Surveying surveyed the TOC and grade elevation and relative latitude, longitude, and coordinates of the monitor well location at the subject property. Virgil Chavez is a Professional Land Surveyor (PLS No. 6323) licensed in the State of California. The benchmark for this survey was a crow's foot cut on the outer rim of a catch basin located at the northwest corner of 5th & Harrison Streets in San Francisco, California, with an elevation of 7.21 feet above Mean Sea Level (NGVD 29). The wellhead elevation and coordinate survey were conducted in general accordance with the State GeoTracker AB2886. Wellhead elevation data for MW1 is included in Table 3.

Quarterly Monitoring and Sampling – January/April/July 2005

On January 13, April 15, 2005, and July 25, 2005, GGTR conducted First, Second, and Third Quarter 2005 groundwater monitoring and sampling at the site. Laboratory analytical and fluid-level monitoring results for each event are included in Tables 2 and 3, respectively.

QUARTERLY GROUNDWATER MONITORING

October 26, 2005

Scope

The scope of the work covered in this report includes the following:

- Monitoring, purging and sampling of MW1
- Groundwater sample laboratory analysis
- Waste management
- Data interpretation and report preparation

Groundwater Sampling Field Procedures

GGTR conducted quarterly groundwater monitoring and sampling activities at the subject property on October 26, 2005, in accordance with the requirements and procedures of the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region and the SFDPH-LOP. Prior to purging and sampling of MW1, GGTR measured and recorded the depth to groundwater and presence of free floating product relative to the top of well casing using a Keck® oil/water interface meter. Measurements were recorded to the nearest 0.01 foot. GGTR also monitored and recorded the dissolved oxygen (DO: in-situ) content using a YSI-55® Dissolved Oxygen Meter.

GGTR then purged ≥ 3 well casing volumes of groundwater from MW1 using a clear acrylic disposable bailer and simultaneously measured the purge water's pH, temperature, and specific conductivity to verify that these parameters had generally stabilized. Following purging, the purge water (@ 10 gallons) was transferred to a 55-gallon D.O.T.-approved steel drum.

After recharge of approximately 80% of the groundwater column in MW1, GGTR collected a groundwater sample by lowering a 2-inch-diameter, disposable, bottom-fill, acrylic bailer to just below the air-water interface. GGTR then carefully decanted the sample from the bailer into the appropriate laboratory sample containers. All volatile organic analysis (VOA) vials were sealed with a threaded cap, inverted, and checked to insure that no entrapped air was present. The groundwater samples were then appropriately labeled and immediately stored in a cooler chilled to approximately 4°C.

All downhole monitoring and sampling equipment was subsequently decontaminated using an Alconox® wash solution and double rinsed with clean, potable water. GGTR transferred the wash and rinse water (@ 10 gallons) to the 55-gallon storage drum, which was appropriately labeled and stored onsite in a secure area at GGTR.

Groundwater Sample Analysis

On October 26, 2005, GGTR submitted the groundwater samples collected from MW1 to Entech Analytical Labs, Inc., a California State-certified (CA ELAP# 2346) laboratory in Santa Clara, California for laboratory analysis of the following fuel hydrocarbon constituents:

- Gasoline Range Organics (TPH-G; Methods SW8020F)
- Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX; Methods SW8020F)
- Methyl Tertiary-Butyl Ether (MTBE; Methods SW8020F)

Entech performed all volatile analyses by November 1, 2005, which is in conformance with the maximum 14-day hold time for these analyses. Quality Assurance and Quality Control (QA/QC) details are shown on the appended laboratory certificates of analysis.

Results of Groundwater Sampling and Laboratory Analysis

The results of the groundwater monitoring and laboratory analyses (performed to date) are summarized on the attached Table 2. A copy of the official laboratory Certificate of Analysis and the associated Chain-of-Custody Form are attached. Documentation of the purging and sampling activities performed during this event is contained in the attached Fluid-Level Monitoring and Well Purging/Sampling Data Sheets. The table shown below summarizes the most recent analytical results for the groundwater samples collected in MW1.

Quarterly Groundwater Sampling Results – October 26, 2005

Sample ID	TPH-G (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)
MW-1	290	ND	ND	1.6	2.5	ND

NOTES: TPH-G - Total Petroleum Hydrocarbons as Gasoline / Gasoline Range Organics
B,T,E,X - Benzene, Toluene, Ethylbenzene, Total Xylenes
MTBE - Methyl Tertiary Butyl Ether
ug/L – micrograms per liter (parts per billion)
ND - not detected above laboratory reporting limit

GGTR uploaded all groundwater sample analytical results associated with the October 26, 2005 event in electronic deliverable format to the State Water Resources Control Board's GeoTracker Database System, pursuant to State Assembly Bill 2886. The GeoTracker Upload Confirmation Number is **8831858813**. A confirmation report copy corresponding to Lab Number/Submittal Title 45978:GW Sample Analytical Data-MW1 (10/26/05) is attached.

Results of Groundwater Measurements

As mentioned above, prior to purging and sampling the groundwater in MW1, GGTR monitored the depth to water and presence of free product, as well as the DO of the groundwater in MW1. Because only one well is used to monitor the site, no groundwater gradient or flow direction was calculated across the site. Table 3 attached, presents the fluid-level and monitoring data measured during the October 26, 2005 event as well as fluid-levels measured in MW1 during initial well development and monitoring in October 2004, and January, April, and July 2005.

The relative groundwater elevation presented in Table 2 is referenced to Mean Sea Level. In December 2004, Virgil Chavez Land Surveying (PLS 6323) surveyed the wellhead TOC and Rim elevation (NGVD 29), latitude and longitude, and coordinate locations (NAD83) of MW1 pursuant to the State GeoTracker Database system. The regional groundwater flow direction in the vicinity of the site is estimated to be toward the southeast, toward the San Francisco Bay (and Islais Creek Channel Inlet) and in the general direction of decreasing topographic relief.

GGTR uploaded the fluid-level monitoring data associated with the July 25, 2005 event in electronic deliverable format to the State GeoTracker Database System. The GeoTracker Upload Confirmation Number is **7800308048**. An AB2886 Electronic Delivery confirmation report copy (GEO_Well) is attached.

Discussion of Groundwater Monitoring & Sampling Results

The depth to groundwater (and associated groundwater elevation) measured during this event was 8.1 fbg (0.56 feet MSL). No free-phase petroleum product was detected on the surface of the groundwater in MW1. A slight hydrocarbon odor was detected in the groundwater sample in MW1.

The DO measured in MW1 [0.97 milligrams per liter (mg/L) / 9.9 %] indicates that aerobic biodegradation of hydrocarbons maybe potentially occurring at this time in the shallow groundwater in the direct vicinity of the UST cavity. The oxidation-reduction potential was not measured during this event.

At the completion of the purge event, the groundwater contained a pH, specific conductivity, and temperature of 8.0, 651 micromhos per centimeter ($\mu\text{mhos/cm}$), and 18.3 Centigrade degrees, respectively. As reported previously, the TDS concentration reported in MW1 during the October 7, 2004 (initial sampling) event was 633,000 $\mu\text{g/L}$, which exceeds the California Regional Water Quality Control Board's Municipal Supply Water Quality Objective (CRWQCB-MSWQO) listed for this constituent [500,000 $\mu\text{g/L}$ (Secondary MCL)]. The specific conductivity measured during this event does not exceed the CRWQCB-MSWQO listed for this constituent [900 $\mu\text{mhos/cm}$ (Secondary MCL)].

Conclusions/Recommendation

As required by the SFDPH-LOP, MW1 has been monitored and sampled for four consecutive quarters since October 2004. Groundwater sample analytical results reported during this period have generally shown a decreasing trend for each constituent of concern (COC), i.e., TPH-G, MTBE, and BTEX. Although the groundwater in the vicinity of the MW1 and surrounding area continues to be impacted by gasoline-range hydrocarbons, the concentrations of TPH-G and BTEX measured during the October 2005 event do not exceed either the CRWQCB-MSWQO or the CRWQCB Tier 1 ESL listed for each COC, where groundwater is not considered a potential drinking water source. Based on these conclusions, GGTR recommends that no further action is warranted and that the SFDPH-LOP initiate the site closure review process at the subject property.

Waste Management

The well purge water and equipment wash and rinse water generated during the October 26, 2005 (approximately 10 gallons) monitoring event was transferred to a 55-gallon, D.O.T.-approved steel drum, appropriately labeled, and transported to GGTR's storage yard (Clara Street). The drum will remain onsite at GGTR in a secure area for use with future groundwater monitoring activities, if warranted. The waste liquid will be profiled and transported under uniform waste manifest to a State-licensed facility for disposal or recycling.

Report Distribution

This report and all future report correspondence associated with GGTR Project 8348 will be submitted to:

San Francisco Department of Public Health
Local Oversight Program
1390 Market Street, Suite 210
San Francisco, CA 94102

Attention: Ms. Stephanie K.J. Cushing

(1 Hard Copy; Unbound)

(1 Electronic Copy via GeoTracker)

Mr. John Scariot
8850 El Doric Court
Gilroy, California, 95020

(2 Hard Copies+ CD; Bound)

REFERENCES

California Division of Mines & Geology, 1990. Geologic Map of the San Francisco-San Jose Quadrangle, Wagner, D.L., Bortugno, E.J., and McJunkin, R.D.

California Regional Water Quality Control Board, San Francisco Bay Region. Application of Environmental Screening Levels and Decision Making at Sites with Impacted Soil and Groundwater; Volume 1: Summary Tier 1 Lookup Tables, July 2003 – Interim Final Guidance.

California Regional Water Quality Control Board, San Francisco Bay Region. Municipal Supply Water Quality Objectives; California Department of Health Services, Primary Maximum Contaminant Levels for Organic Chemical Constituents.

California Regional Water Quality Control Board, San Francisco Bay Region, 1990. Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tanks, August 10, 1990.

California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Water Quality Control Plan, San Francisco Bay Region. June 21, 1995.

GGTR, 2004. Tank Closure Report, 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. June 3, 2004.

GGTR, 2004. Work Plan for Monitor Well Installation and Sampling, 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. June 10, 2004.

GGTR, 2005. Report of Monitor Well Installation and Sampling Activities, 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. January 17, 2005.

GGTR, 2005. Groundwater Monitoring Report, Number 1 – January 13, 2005; 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. January 31, 2005.

GGTR, 2005. Groundwater Monitoring Report, Number 2 – April 15, 2005; 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. June 9, 2005.

GGTR, 2005. Groundwater Monitoring Report, Number 3 – July 25, 2005; 218-220 Clara Street, San Francisco, California. GGTR Project No. 8483. September 22, 2005.

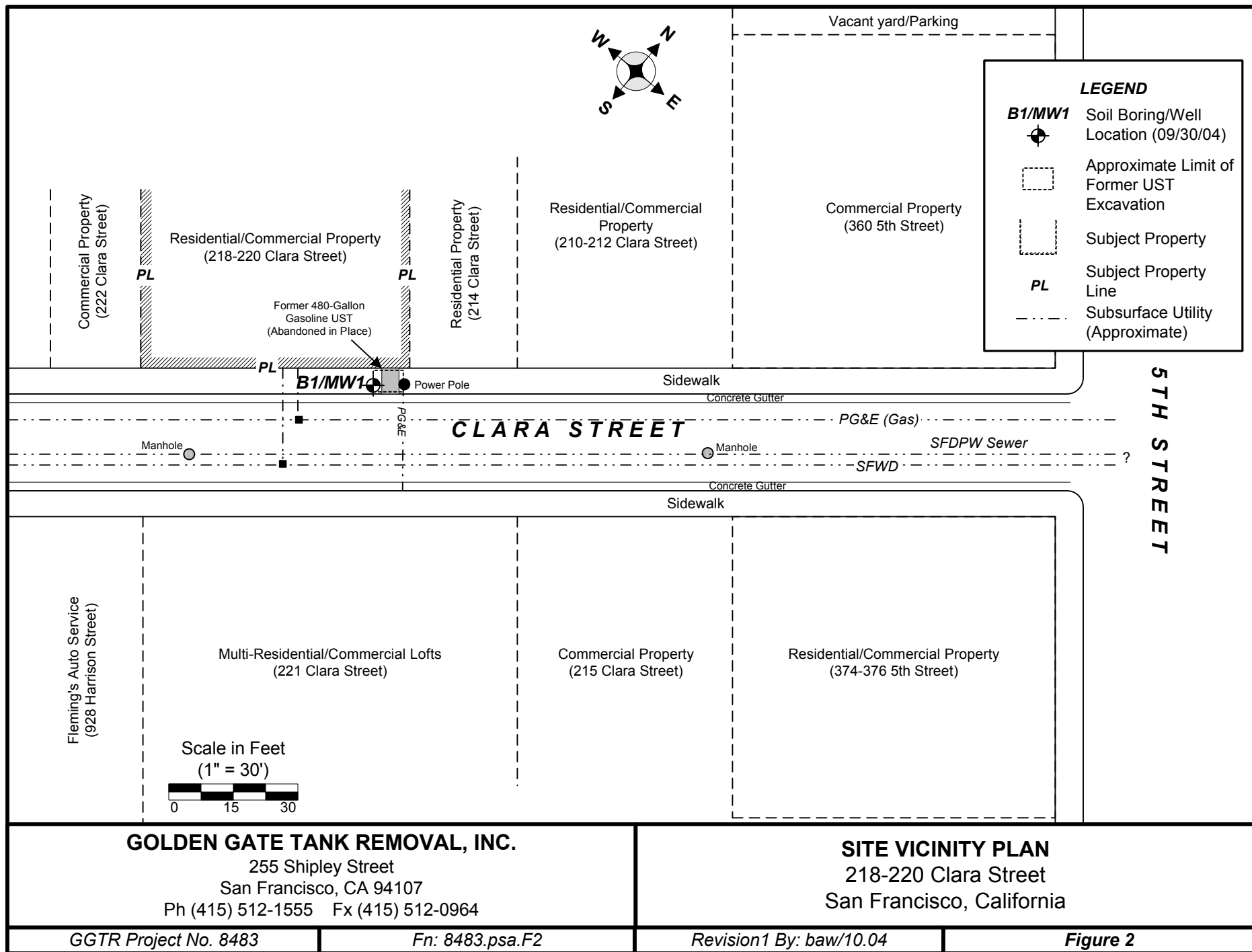


TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
218-220 Clara Street, San Francisco, California

Sample ID	Sample Date	Sample Depth (fbg)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Total Pb (mg/kg)
8483-SP	04/09/04	Stockpile	1.01	ND	ND	ND	ND	ND	59.7
8483-B1-5.5	09/30/04	5.5	ND	ND	ND	ND	ND	ND	--
8483-B1-7.5		7.5	1,880	ND	ND	ND	17.1	ND	--
8483-B1-9.5 ^{1,2}		13.5	2.17	ND (0.028) ³	0.012 (0.093) ²	0.008 (0.032) ²	0.038 (0.229) ²	ND (ND) ²	--
8483-B1-13.5		13.5	1,350	ND	ND	ND	0.020	ND	--
8483-ASC		NA (Soil Cuttings)	22,700	ND	0.268	0.162	0.872	ND	51.3 ⁴
CRWQCB July 2003 Tier 1 ESL – Shallow Soil			100/100	0.045/0.18	2.9/9.3	3.3/4.7	1.5/1.5	0.023/2.0	200/200
CRWQCB July 2003 Tier 1 ESL – Deep Soil			100/400	0.044/0.18	2.9/9.3	3.3/4.7	1.5/1.5	0.023/2.0	750/750

NOTES: TPH-G = Total Petroleum Hydrocarbons as Gasoline (EPA Methods 8015M/8021B)

Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Methods 8015M/8021B

MTBE = Methyl Tertiary-Butyl Ether (EPA Methods 8015M/8021B)

Total Lead by EPA Method 3050/6010B ICAP

8483-SP = stockpile composite sample collected during May 2004 UST abandonment activities

fbg = feet below grade

mg/kg = milligrams per kilogram (equivalent to parts per million)

ND = Non-Detectable; Concentration Below Laboratory Reporting Limit

-- = not analyzed for this constituent

CRWQCB RBSL = California Regional Water Quality Control Board's Tier 1 Risk Based Screening Level; Levels shown are for **shallow soil < 10 fbg (3 meters)** and **deep soil > 10 fbg (3 meters)**, where groundwater **IS / IS NOT** potential source of drinking water at sites with *residential* land usage

¹ = sample contained following VOCs (EPA method 8260), in mg/kg: 0.028 benzene, 0.093 toluene, 0.032 ethylbenzene, 0.229 total xylenes, 0.011 isopropylbenzene, 0.024 n-propylbenzene, 0.203 1,3,5-trimethylbenzene, 0.069 1,2,4-trimethylbenzene, 0.013 sec-butylbenzene, and 0.029 naphthalene

² = sample additionally analyzed for Fuel Oxygenates by EPA Method 8260 (All results ND<<0.500 mg/kg)

³ = associated concentration, as confirmed by EPA Method 8260 (VOC)

⁴ = sample additionally analyzed for STLC Lead (5.61 mg/l; CA Title 22 WET/6010B ICAP) and TCLP Lead (ND; 6010B ICAP)

TABLE 2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
218-220 Clara Street, San Francisco, California

Boring/Well ID	Sample ID	Sample Date	TPH-G (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Fuel Oxygenates (ug/L)	Lead (ug/L)
UST Excavation	8483-WATER	04/09/04	7260	57.9	9.2	125	60.3	ND	--	0.29
UST Excavation	8483-W2	04/22/04	4550	28.7	13	37.1	23.5	ND	--	ND
MW1	8483-MW1 ^{1,2}	10/07/04	760	1.5	2.8	1.8	6.3	ND ³	--	--
	8483-MW1	1/13/05	1400	ND	6.1	2.1	9.2	ND	--	--
	8483-MW1	4/15/05	713	ND	1.7	2.7	1.2	ND	ND	--
	8483-MW1	7/25/05	470	0.80	ND	0.50	4.2	ND	--	--
	8483-MW1	10/26/05	290	ND<1	ND<1	1.6	2.5	ND<2	--	--
CRWQCB MSWQO (Primary MCL)			None	1	150	300	1,750	5 ⁴	2	15
CRWQCB ESL February 2005 ESL			100/500	1.0/46	40/130	30/290	13/13	5/1,800	Varies	2.5/2.5

NOTES: TPH-G = Total Petroleum Hydrocarbons as Gasoline (EPA Methods 8015M/8021B)

Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Methods 8015M/8021B

MTBE = Methyl Tertiary-Butyl Ether (EPA Methods 5030B/8260B)

Lead (TTLC) by EPA Method 6010B ICAP

ug/L = micrograms per liter (equivalent to parts per billion)

ND = Non-Detectable; Concentration Below Laboratory Reporting Limit

NC = No Criteria

CRWQCB MSWQO (Primary MCL) = California Regional Water Quality Control Board, Municipal Supply Water Quality Objective;
Primary Maximum Contaminant Level

CRWQCB ESL = California Regional Water Quality Control Board's Risk Based Screening Level; Levels shown are
for **Groundwater < 10 fbg (3 meters)** where groundwater **IS / IS NOT** a threatened drinking water resource.

¹ = Sample also contained the following VOC concentrations (EPA method 8260), in ug/l: 12 acetone, 5 isopropylbenzene, 1 n-propylbenzene,
and 2 n-butylbenzene

² = Sample also analyzed for Total Dissolved Solids by EPA Method 160.1 (Result = 633,000 ug/l)

³ = Confirmed by EPA method 8260

⁴ = Established Secondary MCL

TABLE 3
FLUID-LEVEL AND MONITORING DATA
218-220 Clara Street, San Francisco, California

Boring/Well ID	Measurement Date	Depth To Product, Feet (TOC/FBG)	Depth To Water, Feet (TOC/FBG)	Product Thickness (Feet)	Well Casing Elevation ¹ , Feet MSL (RIM/TOC)	Relative Groundwater Elevation ¹ (Feet/MSL)
MW1	10/05/04	--	8.20/8.45	--	8.91/8.66	0.71
	10/07/04	--	8.20/8.45	--	8.91/8.66	0.71
	1/13/05	--	7.1/ 7.35	--	8.91/8.66	1.56
	4/15/05	--	7.1/ 7.35	--	8.91/8.66	1.56
	7/25/05	--	8.15/ 8.40	--	8.91/8.66	0.51
	10/26/05	--	8.1/ 8.35	--	8.91/8.66	0.56

Notes: TOC = Measurement relative to Top of Well Casing (North Side)
 FBG = Feet Below Grade
 MSL = Mean Sea Level

¹ = Well Casing and Relative Groundwater Elevations referenced to benchmark (Elev. = 7.21 Feet, MSL), which was a crows foot cut on outer rim of catch basin located at NW corner of 5th & Harrison Streets, San Francisco, CA; Wellhead elevation survey conducted December 20, 2004 by Virgil Chavez Land Surveying (California LLS No. 6232); Associated latitude, longitude, and coordinates were surveyed relative to TOC and based on California State Coordinate System.

ATTACHMENTS

**Laboratory Certificate of Analysis
AB2886 GeoTracker Upload Confirmation Forms
Fluid-Level Monitoring Data Sheet
Well Purging/Sampling Data Sheet**

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Brent Wheeler
Golden Gate Tank Removal
255 Shipley Street
San Francisco, CA 94107

Certificate Number: 45978

Issued: 11/02/2005

Project Number: 8483
Project Name: 218 Clara Strret

Order / Lab Number: 45978

Global ID: T0607547197

Certificate of Analysis - Final Report

On October 26, 2005, sample was received under chain of custody for analysis.

Entech analyzes samples "as received" unless otherwise noted. The following results are included:

<u>Matrix</u>	<u>Test</u>	<u>Comments</u>
Liquid	EDF	
	TPH as Gasoline	
	MTBE by EPA 8020	
	BTEX	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,



Erin Cunniffe
Laboratory Operations Manager

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Golden Gate Tank Removal
255 Shipley Street
San Francisco, CA 94107
Attn: Brent Wheeler

Date Received: 10/26/2005 3:14:23 PM

Project Number: 8483
Project Name: 218 Clara Strret
GlobalID: T0607547197

Certificate of Analysis - Data Report

Sample Collected by: client

Lab # : 45978-001 Sample ID: 8483-MW1

Matrix: Liquid Sample Date: 10/26/2005 12:13 PM

EPA 5030C EPA 8015 MOD. (Purgeable)

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	TPH as Gasoline QC Batch
TPH as Gasoline	290		2.0	100	µg/L	N/A	N/A	11/1/2005	WGC051101

Surrogate **Surrogate Recovery** **Control Limits (%)**
4-Bromofluorobenzene 152 *** 65 - 135

Analyzed by: mruan

Reviewed by: MaiChiTu

*** Surrogate recovery out of control limits due to matrix interference.

EPA 8020

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	BTEX QC Batch
Benzene	ND		2.0	1.0	µg/L	N/A	N/A	11/1/2005	WGC051101
Toluene	ND		2.0	1.0	µg/L	N/A	N/A	11/1/2005	WGC051101
Ethyl Benzene	1.6		2.0	1.0	µg/L	N/A	N/A	11/1/2005	WGC051101
Xylenes, Total	2.5		2.0	1.0	µg/L	N/A	N/A	11/1/2005	WGC051101
Methyl-t-butyl Ether	ND		2.0	2.0	µg/L	N/A	N/A	11/1/2005	WGC051101

Surrogate **Surrogate Recovery** **Control Limits (%)**
4-Bromofluorobenzene 99.8 65 - 135

Analyzed by: mruan

Reviewed by: MaiChiTu

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Method Blank - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

QC Batch ID: WGC051101

Validated by: MaiChiTu - 11/02/05

QC Batch Analysis Date: 11/1/2005

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	108	65 - 135

Method Blank - Liquid - EPA 8020 - MTBE by EPA 8020

QC Batch ID: WGC051101

Validated by: MaiChiTu - 11/02/05

QC Batch Analysis Date: 11/1/2005

Parameter	Result	DF	PQLR	Units
Methyl-t-butyl Ether	ND	1	1.0	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	95.9	65 - 135

Laboratory Control Sample / Duplicate - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

QC Batch ID: WGC051101

Reviewed by: MaiChiTu - 11/02/05

QC Batch ID Analysis Date: 11/1/2005

LCS						
Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<50	120	113	µg/L	90.4	65 - 135
Surrogate	% Recovery	Control Limits				
4-Bromofluorobenzene	118	65 - 135				

LCSD								
Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<50	120	102	µg/L	81.6	10	25.0	65 - 135
Surrogate	% Recovery	Control Limits						
4-Bromofluorobenzene	109	65 - 135						

Laboratory Control Sample / Duplicate - Liquid - EPA 8020 - MTBE by EPA 8020

QC Batch ID: WGC051101

Reviewed by: MaiChiTu - 11/02/05

QC Batch ID Analysis Date: 11/1/2005

LCS						
Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Methyl-t-butyl Ether	<1.0	4.0	3.77	µg/L	94.2	65 - 135
Surrogate	% Recovery	Control Limits				
4-Bromofluorobenzene	96	65 - 135				

LCSD								
Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Methyl-t-butyl Ether	<1.0	4.0	3.79	µg/L	94.8	0.53	25.0	65 - 135
Surrogate	% Recovery	Control Limits						
4-Bromofluorobenzene	93.2	65 - 135						

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Method Blank - Liquid - EPA 8020 - BTEX

QC Batch ID: WGC051101

Validated by: MaiChiTu - 11/02/05

QC Batch Analysis Date: 11/1/2005

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank % Recovery Control Limits

4-Bromofluorobenzene 95.9 65 - 135

Laboratory Control Sample / Duplicate - Liquid - EPA 8020 - BTEX

QC Batch ID: WGC051101

Reviewed by: MaiChiTu - 11/02/05

QC Batch ID Analysis Date: 11/1/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	4.0	3.50	µg/L	87.5	65 - 135
Ethyl Benzene	<0.50	4.0	3.54	µg/L	88.5	65 - 135
Toluene	<0.50	4.0	3.59	µg/L	89.8	65 - 135
Xylenes, total	<0.50	12	10.7	µg/L	89.1	65 - 135

Surrogate % Recovery Control Limits

4-Bromofluorobenzene 96 65 - 135

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	4.0	3.41	µg/L	85.2	2.6	25.0	65 - 135
Ethyl Benzene	<0.50	4.0	3.42	µg/L	85.5	3.4	25.0	65 - 135
Toluene	<0.50	4.0	3.80	µg/L	95.0	5.7	25.0	65 - 135
Xylenes, total	<0.50	12	10.2	µg/L	85.0	4.7	25.0	65 - 135

Surrogate % Recovery Control Limits

4-Bromofluorobenzene 93.2 65 - 135

Entech Analytical Labs, Inc.

3334 Victor Court
Santa Clara, CA 95054
(408) 588-0200
(408) 588-0201 - Fax

Chain of Custody / Analysis Request

[illegible]

Golden Gate Tank Removal, Inc.

WELL PURGING/SAMPLING DATA

Project Number: 2483 Date: 10/26/05

Project / Site Location: 218-220 Clara St., S.F., CA

Sampler/Technician: O'Bryan

WELL I.D.: MW-1

EVENT: ☒ SAMPLING ☐ WELL DEVELOPMENT

DEPTH TO WATER: 2.1

DEPTH TO BOTTOM: 15.0

TOC / TOWB

Well Diameter	Water Column		Casing Volume (gals.)		Total Purge (gals.)
2-inch well	<u>6.9</u>	ft.x 0.163 gal/ft =	<u>1.12</u>	X <u>3</u> =	<u>3.36</u>
4-inch well		ft.x 0.652 gal/ft =		X =	
-inch well		ft.x gal/ft =		X =	

80 percent recharge level: 9.5 Type of Pump: Disp. Bulk Sampling Device: Disp. Bailer

GROUNDWATER PARAMETERS

TIME	GALS. PURGED	TEMP (°C)	pH	COND.	D.O.	ORP	ODOR/SHEEN	NOTES/OTHER
1205	1.25	18.3	7.8	658	9.7 mg/L 9.9%	/	Odor sheen	D.O. taken Grey Pre-Purge
1207	2.5	18.4	8.0	645	/	-87	"	"
1209	3.5	18.3	8.0	651	/	/	"	clearing

Total Volume: 3.5 Gals.

(in) / out of well in / (out) of well

Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

UPLOADING A GEO_WELL FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title: fluid level monitoring data; MW1
10/26/05

Submittal Date/Time: 12/28/2005 8:39:14 AM

Confirmation
Number: 7800308048

[Back to Main Menu](#)

Logged in as GGTR (AUTH_RP)

CONTACT SITE [ADMINISTRATOR](#)

Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

Your EDF file has been successfully uploaded!

Confirmation Number: 8831858813

Date/Time of Submittal: 1/4/2006 1:29:35 PM

Facility Global ID: T0607547197

Facility Name: COMMERCIAL PROPERTY

Submittal Title: 45978:GW Sample Analytical Data - MW1(10/26/05)

Submittal Type: GW Monitoring Report

[Click here](#) to view the detections report for this upload.

COMMERCIAL PROPERTY 218 CLARA STREET SAN FRANCISCO, CA 94107	Regional Board - Case #: 38-2284 SAN FRANCISCO BAY RWQCB (REGION 2) - (GVL) Local Agency (lead agency) - Case #: 11622 SAN FRANCISCO COUNTY LOP - (SC)
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

CONF #	TITLE	QUARTER
8831858813	45978:GW Sample Analytical Data - MW1(10/26/05)	Q4 2005
SUBMITTED BY	SUBMIT DATE	STATUS
Brent Wheeler	1/4/2006	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	1
# FIELD POINTS WITH DETECTIONS	1
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	1
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	CATPH-G,SW8020
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- CATPH-G REQUIRES TPHC6C12 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	N

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	n/a
- MATRIX SPIKE	n/a
- MATRIX SPIKE DUPLICATE	n/a
- BLANK SPIKE	n/a
- SURROGATE SPIKE	n/a

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	n/a

BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% n/a

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% n/a

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% n/a

SURROGATE SPIKES % RECOVERY BETWEEN 70-125% n/a

BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% n/a

FIELD QC SAMPLES

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as GGTR (AUTH_RP)

CONTACT SITE ADMINISTRATOR.